CLAIMS

I/We claim:

[c1] 1. A method for transmitting control information during transmission of packets, the method comprising:

transmitting symbols of the packet, the symbols of the packet including in-band symbols; and

when control information is to be transmitted,

stopping the transmitting of the symbols of the packet;

transmitting an out-of-band symbol representing the control information; and

after the out-of-band symbol is transmitted, continuing with the transmitting of the symbols of the packet that have not yet been transmitted.

[c2] 2. The method of claim 1 wherein the out-of-band symbol is one of two out-of-band symbols that form a primitive.

[c3] 3. The method of claim 2 wherein one symbol of the primitive has a negative disparity and the other symbol of the primitive has a positive disparity.

[c4] 4. The method of claim 2 wherein the primitive has a neutral disparity.

[c5] 5. The method of claim 2 wherein the transmitting of the primitive has minimal effect on running disparity.

[c6] 6. The method of claim 1 wherein the transmitting of the out-of-band symbol has minimal effect on running disparity.

[c7] 7. The method of claim 1 wherein an in-band symbol is transition optimized and an out-of-band symbol is not transition optimized.

[c8] 8. The method of claim 1 including receiving the symbols of the packet via one port of a switch and transmitting the symbols of the packet via another port of the switch.

[c9] 9. The method of claim 1 wherein the control information controls communications nodes of a storage area network.

[c10] 10. The method of claim 1 wherein the control information controls a data store device.

[c11] 11. The method of claim 1 wherein the symbols of the packet can include non-contiguous out-of-band symbols and wherein the control information includes contiguous out-of-band symbols.

[c12] 12. A method for receiving control information while receiving a packet of symbols, the method comprising:

receiving a first portion of symbols of the packet, the symbols of the packet being in-band symbols;

after receiving the first portion of symbols of the packet, receiving an out-of-band symbol representing the control information; and

after receiving the out-of-band symbol, receiving a second portion of the symbols of the packet

wherein the control information interrupts the reception of the packet of symbols.

[c13] 13. The method of claim 12 wherein the out-of-band symbol is one symbol of primitive comprising multiple symbols.

[c14] 14. The method of claim 13 wherein the primitive comprises two out-of-band symbols.

[c15] 15. The method of claim 12 including combining the first portion of the symbols with the second portion of symbol to form the packet of symbols.

[c16] 16. The method of claim 12 wherein the control information is link control information.

[c17] 17. The method of claim 12 wherein the method is performed by a communications node of a storage link network.

[c18] 18. The method of claim 12 wherein the method is performed by a switch.

[c19] 19. A communications device for transmitting control information during transmission of packets, comprising:

a packet transmission component that transmits symbols of the packet, the symbols of the packet being in-band symbols; and

a control transmission component that interrupts the transmission of the symbols of the packet and transmits an out-of-band symbol representing control information

wherein the packet transmission component resumes transmitting the symbols of the packet after transmission of the out-of-band symbol representing control information.

[c20] 20. The communications device of claim 19 wherein out-of-band symbol is one of two out-of-band symbols that form a primitive.

[c21] 21. The communications device of claim 20 wherein one symbol of the primitive has a negative disparity and the other symbol of the primitive has a positive disparity.

[c22] 22. The communications device of claim 20 wherein the primitive has a neutral disparity.

[c23] 23. The communications device of claim 20 wherein the transmitting of the primitive has minimal effect on running disparity.

[c24] 24. The communications device of claim 19 wherein the transmitting of the out-of-band symbol has minimal effect on running disparity.

[c25] 25. The communications device of claim 19 wherein an in-band symbol is transition optimized and an out-of-band symbol is not transition optimized.

[c26] 26. The communications device of claim 19 wherein the control information controls communications nodes of a storage link network.

[c27] 27. The communications device of claim 19 wherein the control information controls a data store device.

[c28] 28. The communications device of claim 19 wherein the symbols of the packet can include non-contiguous out-of-band symbols and wherein the control information includes contiguous out-of-band symbols.